Manual 881 E

MONARK
SPORTS & MEDICAL

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Important

Read the manual carefully before using the cycle and save it for future use.

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Monark Exercise AB

Monark has 100 years' experience of bicycle production. The Monark tradition has yielded know-how, experience, and a real feel for the product and quality. Since the early 1900s, Monark's cycles have been living proof of precision, reliability, strength and service. That are the reasons why we are now the world leader in cycle ergometers and the market leader in Scandinavia in transport cycles.

We manufacture, develop and market ergometers and exercise bikes, transport bikes and specialized bicycles. Our largest customer groups are within health care, sports medicine, public authorities, industry and postal services.

For more information: www.monarkexercise.se

Product Information

Congratulations on your new Ergometer.

Monark Rehab Trainer 881 E is an arm and leg ergometer that provides the potential to individually adapt exercise at home or in the hospital, with continual following-up and adjustment of the exercise intensity. Ideal for exercise from a wheel chair.

NOTE!
Use of the product may involve considerable physical stress. It is therefore recommended people who are not accustomed to cardio or not feel completely healthy to first consult a physician for advice.

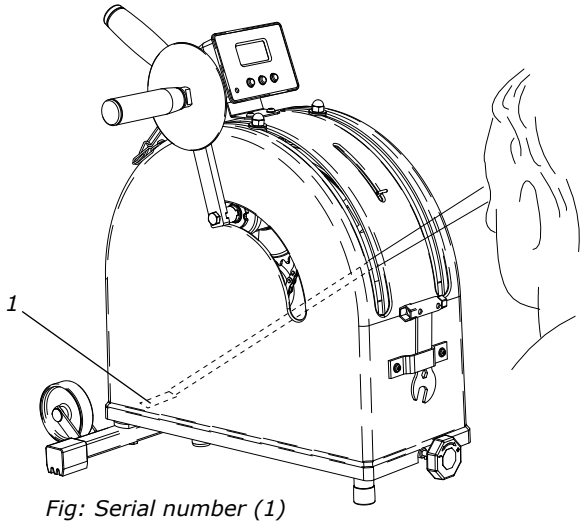


Fig: Serial number (1)

Facts

- The unit can be calibrated
- Graduated scale in watts, showing the work load at 50 rpm.
- Electronic display
- Adjustable crank arms (horizontally and vertically)
- Transport handle, adjustable vertically
- Powder painted
- Wheels for easy transport

Width
470 mm (18,5")

Length
540 mm (21")

Height
550 mm (21,5")

Weight
22 kg (48,5 lbs)

Included
Pedals
Handles

Accessories
Wall bar table
Adjustable table

Serial number

The serial number of your Ergometer is placed according to *fig: Serial number.*

Operating Instruction

Workload device

Monark Rehab Trainer model 881 E is an arm and leg ergometer provided with a brake belt. The power can be read in watts at 50 pedal rpm moreover, the work can be read in kilo pond metres (kpm). The Rehab Trainer is also equipped with an electronic meter, showing pedal revolutions per minute (RPM), the total pedal revolutions (TOTAL COUNT) and time (TIME) function.

Through cycling supplies the test person kinetic energy to the flywheel. This is braked by means of a brake belt which runs around the bigger part of the brake surface of the flywheel. The workload is changed either by using another pedalling speed or by increasing or decreasing the tension of the brake belt against the flywheel by means of the work load control knob.

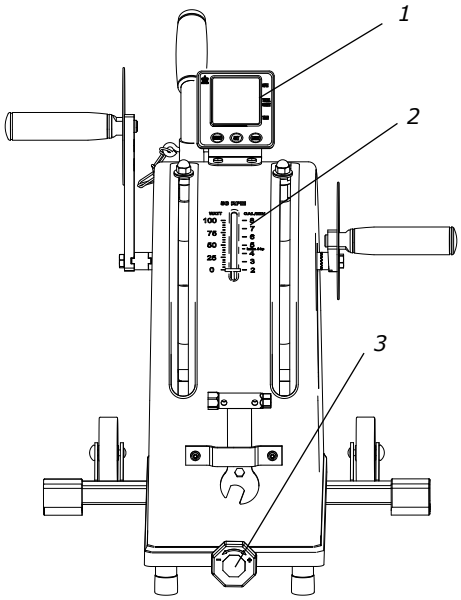
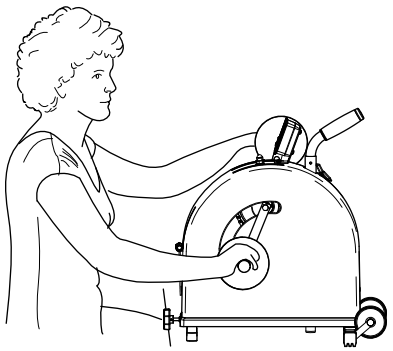
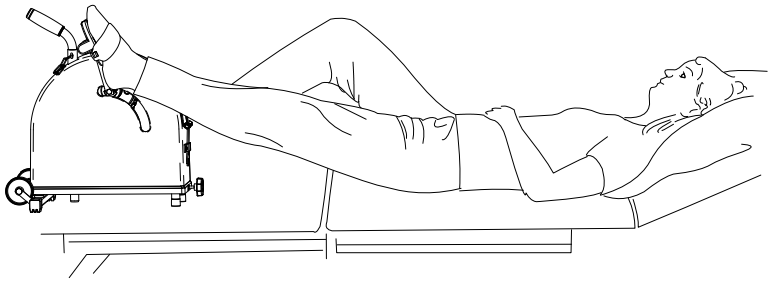


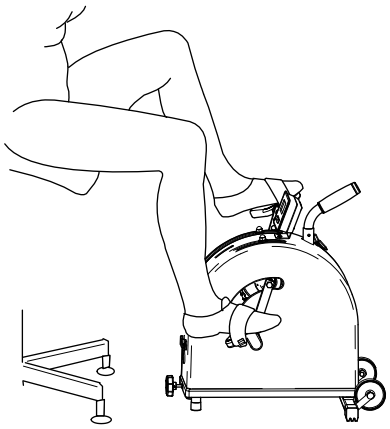
Fig: Workload device
1) Electronic meter
2) Graduated scale
3) Control knob for adjustment of work load



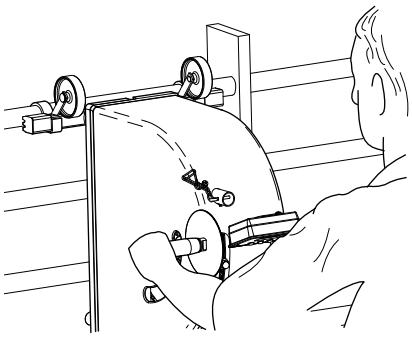
Arm exercise in a sitting position with the ergometer placed on a table.



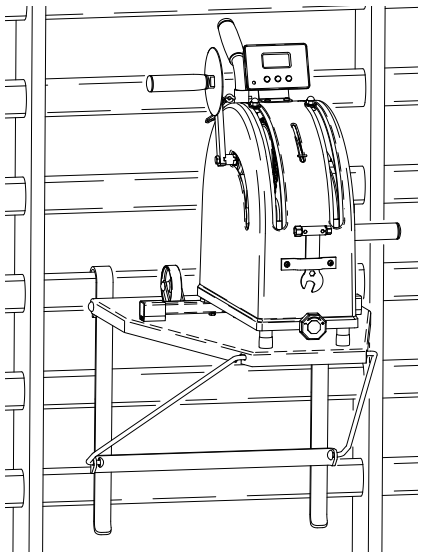
Leg exercise in a lying position at the same level as the ergometer.



Leg exercise in a sitting position with the ergometer placed on the floor.



Arm exercise with the ergometer hanging on the wall bars.

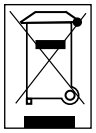


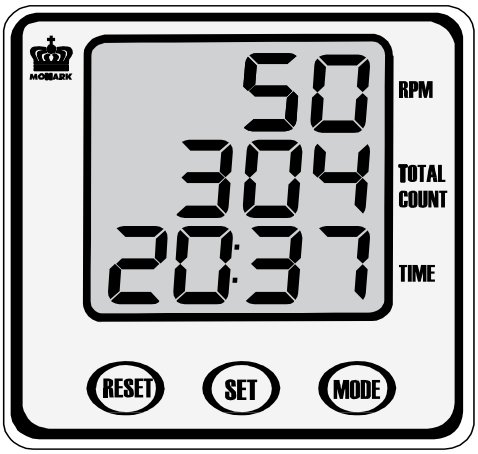
Ergometer placed on a table for wall bars.

Computer specifications

Display		
RPM	0 - 250	rev./min
TOTAL COUNT	9999	rev. total
TIME	0:00-99:59	min:sec

Batteries: 2 x 1.5 V, R6 (AA)
Storing temperature: -10ºC - +60ºC
Operating temperature: 0ºC - 50ºC





KEYS AND FUNCTIONS

MODE key
Use the MODE key to cycle through the functions.

SET key
Pressing this key will make it possible to set TIME and TOTAL COUNT. If you hold down this key for two seconds you can advance the function value at a faster rate.

Programming TIME:
Press MODE key to advance to TIME function, and use SET to enter your desired time. Each press of SET will advance time by one minute. When pedalling is started, measurement of remaining exercise time will begin and the unit will count down to 0 at which time beeper will sound for five seconds.

Programming TOTAL COUNT:
Press MODE key to advance to TOTAL COUNT function, and use SET to enter your desired value. Each press of SET will advance value by 10. When pedaling is started, measurement of remaining revolutions will begin and the unit will count down to 0 at which time beeper will sound for five seconds.

RESET key
The RESET key will clear the values for TIME and TOTAL COUNT individually.

NOTE:
1. The display will return to normal when no key is pressed for five seconds, or trainer is not used.
2. The computer starts automatically when one of the keys is pressed, or when the trainer is used and meter gets rpm indication.
3. Auto shut off function when not pressed any key or device not used for four minutes.

Do not expose the fitness computer to direct sunlight or extremely high temperature. Do not use any dissolvents when cleaning. Use only dry cloth.

Calibration

Calibration is done at the factory. If you for some reason want to check the calibration, do as follows:

Tighten the brake belt through turning the control knob so that pointer goes up to about 25-50 Watt at rotation of the crank. Put the Rehab Trainer at the edge of a table. Loosen the screws for the clamping plate(3), so that the end of the belt is loose. See *fig: Calibration*. Fasten a 2 kg weight (Art. No: 9000-212) to the brake belt(2). This weight should now be read on the scale at 2 kp. See *fig: Watt scale*.

Should there be a deviation between the position of the pointer and the 2 kp marked on the scale, adjust the loading spring by turning the adjusting screw until the correct position is obtained. See *fig: Calibration* and *fig: Watt scale*. Turn clockwise if the pointer is placed too high and turn counter clockwise if the pointer is placed too low. Remove the weight and fasten the brake belt with the screw for the clamping plate so that the pointer does not go below the zero ("0") marked on the scale.

The height level of the cranks is adjustable when loosen the nuts, see *fig: Adjustments*. Set the crank arms at the desired position and fasten with the nuts. If the cranks are not in line, adjust these. First set the left hand crank straight upwards. Then loosen the right hand crank by undoing the crank arm screw(6). Adjust the position of the right hand crank so it is in line with left hand crank and tighten the screw.

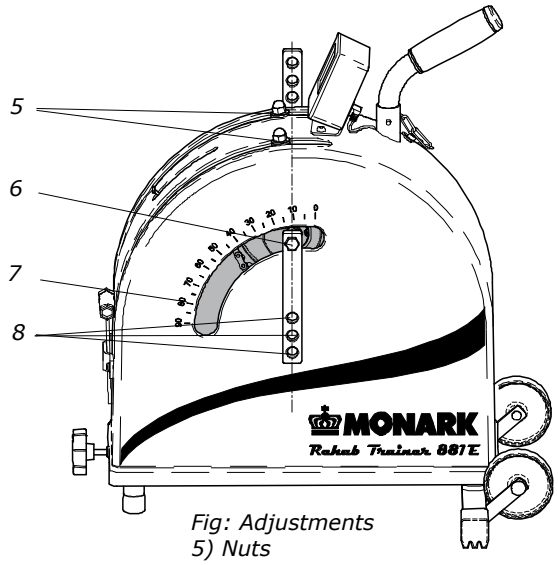


Fig: Adjustments
5) Nuts
6) Crank arm screw
7) Graduated scale
8) 3 different positions

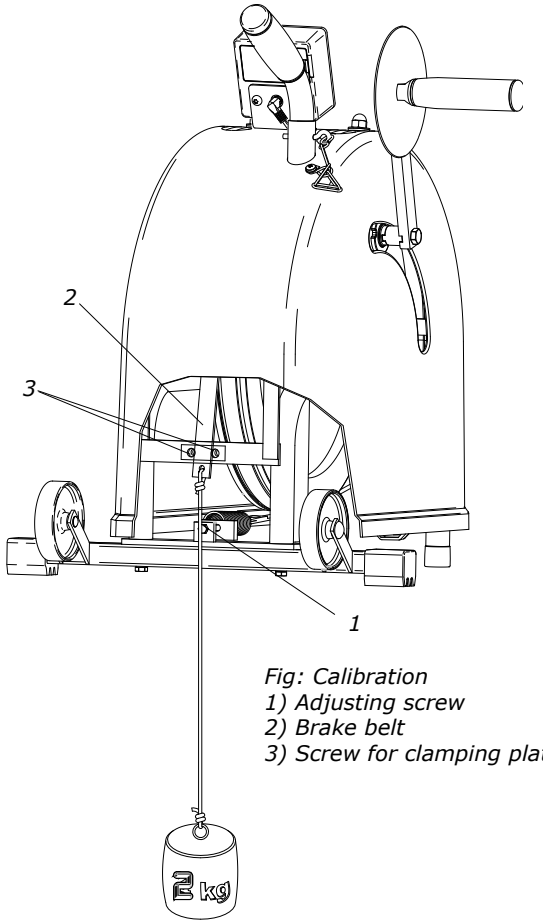
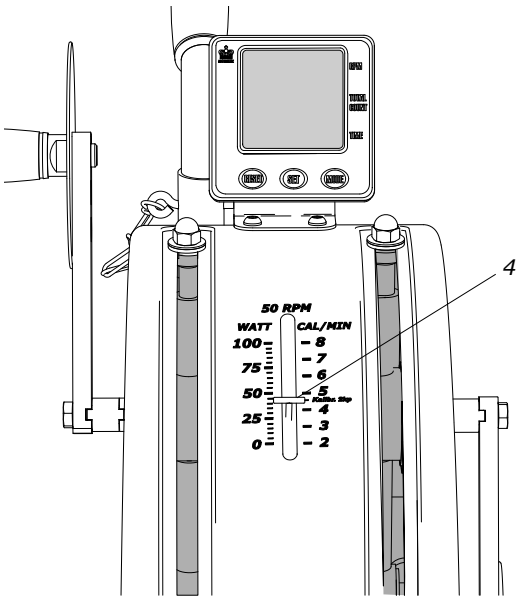


Fig: Calibration
1) Adjusting screw
2) Brake belt
3) Screw for clamping plate



Watt scale
4) 2 kp

Troubleshooting guide

Symptoms	Probable Cause/Corrective Action
There is a click noise with every revolution (increases with the weight).	The pedal/handles are not tightly drawn, tighten them or change pedals/handles. There is a loose in the crank cheek, tighten. There is a loose in the base bearing, contact your dealer for service.
The display shows no digits.	Check that the cable is properly connected in the back of the meter. Check batteries.
Uneven movement and the pointer moves irregularly (up and down).	Dirt on the brake belt and/or contact surface. See section “Brake belt contact surface”.

Service

Warning

Make sure the voltage indicated on the appliance corresponds to the local mains voltage before making connections.

Warranty

EU countries - Private use
If you are a natural person you will have a minimum level of protection against defects in accordance with EC Directive 1999/44/EC. In short, the directive provides for that your Monark Dealer will be liable for any defects, which existed at the time of delivery. In case of defects, you will be entitled to have the defect remedied within a reasonable time, free of charge, by repair or replacement.

EU countries - Professional use
Monark Exercise products and parts are guaranteed against defects in materials and workmanship for a period of one year from the initial date of purchase of the unit. In the event of a defect in material or workmanship during that period above, Monark Exercise will repair or replace (at its option) the product. Monark Exercise will do so at its expense for the cost of materials but not for labour or shipping.

Other countries
Monark Exercise products and parts are guaranteed against defects in materials and workmanship for a period of one year from the initial date of purchase of the unit. In the event of a defect in material or workmanship during that period above, Monark Exercise will repair or replace (at its option) the product. Monark Exercise will do so at its expense for the cost of materials but not for labour or shipping.

Service check & maintenance

To keep your Ergometer in good shape you should make a regular service.

Service action:
- If you wish to disinfect the surface of the bike we recommend isopropyl alcohol. Use a damp but not wet cloth to clean the surface you wish to disinfect.
- Keep your Ergometer clean and properly lubricated (once a week).
- Periodically wipe the surface with a rust preventative, especially when it has been cleaned and the surface is dry. This is done to protect the chrome- and zinc parts as well as the painted parts (4 times per year).
- Check now and then that both pedals are firmly tightened. If not the threading in the pedal arms will be damaged. Also check that pedal arms are firmly tightened on the crank axle, tighten if necessary. When the Ergometer is new it is important to tighten the pedals after 5 hours of pedalling (4 times per year).
- Check that the pedal crank is secure to the crank axle (4 times per year).
- Be sure that the pedals are moving smoothly, and that pedal axle is clear of dirt and fibres (4 times per year).
- When cleaning and lubricating be sure to check that all screws and nuts are properly tightened (2 times per year).
- Check that the chain is snug and there is no play in the pedal crank (2 times per year).
- Check that pedals, chain and freewheel sprocket are lubricated (2 times per year).
- Be sure that the brake belt does not show significant signs of wear (2 times per year).
- Check that the handlebars and seat adjustment screws are lubricated (2 times per year).
- Be sure that all moving parts as crank and flywheel are working normal and that no abnormal play or sound exists. I.e. play in bearings causes fast wearing and with that follows a highly reduced lifetime.
- Check that the flywheel is placed in the center and with plane rotation.

Batteries

If the meter is battery-operated, the batteries are in a separate package at delivery. If the storing time has been long the battery power can be too low to make the computer act correctly. Batteries must be changed.

Crank bearing

The crank bearing is long term greased and require normally no supplementary lubrication. If problem arises, please contact your Monark dealer.

Flywheel bearing

The bearings in the flywheel are lifetime greased and require normally no maintenance. If problem arises, please contact your Monark dealer.

Transport

At transport the brake belt should be somewhat tightened to prevent it from falling off the flywheel.

Replacement of brake belt

To replace the brake belt remove covers if necessary. Make sure that the belt is loose.

Alt. 1: To loosen the belt on pendulum bikes with motor, turn the power on and move the pendulum to 4 kp. Hold it there until brake belt is loose. Observe how the belt is connected. Take it apart and remove it from the bike. Attach the new brake belt and assemble the bike in reverse order.

Alt. 2: To loosen the brake cord on cycles with weight basket set the basket to its upper position. Loosen the lock washer that is holding the cord and remove it from the tension center. Loosen or cut of the knot in the other end of the cord and then remove the hole cord from the bike. When assembling a new brake cord, first enter one end into the hole in the tension center, and tie a knot and let the knot fall into the bigger part of the hole. Lock the end of the cord with the lock washer.

Alt. 3: To loosen the belt on other bikes remove all possible tension. Observe how the belt is connected. Take it apart and remove it from the bike. Attach the new brake belt and assemble the bike in reverse order.

NOTE: When replacing the brake belt it is recommended to clean the brake surface. See ”Brake belt contact surface”.

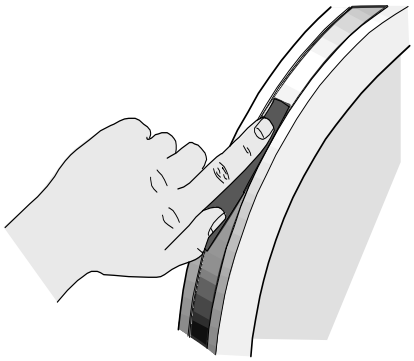
Brake belt contact surface

Deposits of dirt on the brake belt and on the contact surface may cause the unit to operate unevenly and will also wear down the brake belt. The brake belt contact of the flywheel surface should then be ground off with fine sandpaper and any dust removed with a clean dry cloth.

Remove if there are any covers and loosen the tension on the brake belt. Grind with a fine sandpaper. Grinding is easier to perform if a second individual cautiously and carefully pedals the cycle.

Irregularities on the brake belt contact surface are removed by means of a fine sandpaper or an abrasive cloth. Otherwise unnecessary wear on the brake belt may occur and the unit can become noisy.

Always keep the brake belt contact surface clean and dry. No lubricant should be used. We recommend replacing the brake belt when cleaning the contact surface. In regard to assembly and adjustment of the brake belt, see ”Replacement of brake belt”.



Chain 1/2" x 1/8"

It is strongly recommended to keep the chain clean. Dirt build-up on the chain will cause excess wear. A chain lubricant and solvent for normal road bikes may be used.

Check the lubrication and tension of the chain in regular intervals. In the middle of its free length the chain should have a minimum play(3) of 10 mm (1/4 inch). See *fig: Chain adjustments*. When the play in the chain is about 20 mm (3/4 inch) it must be tightened otherwise it will cause abnormal wear of the chain and chainwheels. Because of this it is always recommended to keep the chain play as little as possible. Loosen the hub nut(2) on both sides and tense the chain with the chain adjuster(1) when needed.

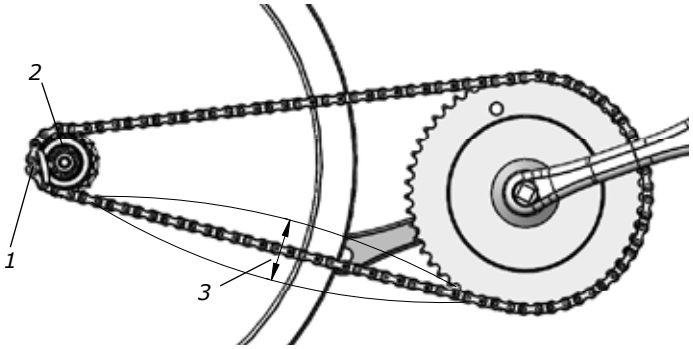


Fig: Chain adjustments
1) Chain adjuster
2) Hub nut
3) Chain play

When the chain has become so long that it can no longer be tightened with the chain adjusters it is worn out and shall be replaced with a new one.

To adjust or replace the chain remove frame covers if necessary.

To adjust the chain the hub nuts(2) should be loosened. Loosening or tightening the nuts on the chain adjusters(1) will then move the hub and axle forward or backward. Adjust according to above recommendation. Then tighten the nuts on the hub axle again. See *fig: Chain adjustments*.

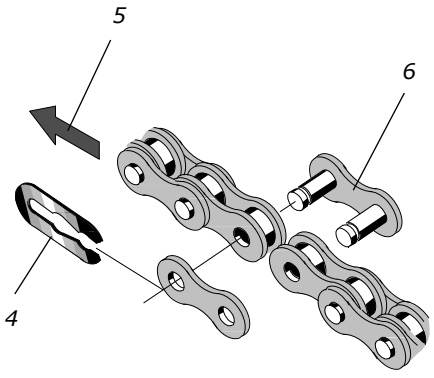


Fig: Chain replacement
4) Lock spring
5) Movement direction
6) Chain lock

To replace the chain loosen the chain adjuster as much as possible. Dismantle the chain lock(6) and remove the chain. Put on a new chain and assemble the chain lock. The spring of the chain lock should be assembled with the closed end in the movement direction(5) of the chain. Use a pair of tongs for dismantling and assembling the spring(4). See *fig: Chain replacement*.

NOTE: At assembly the flywheel has to be parallel with the centerline of the frame otherwise the chain and chain wheels makes a lot of noise and wears out rapidly.

Adjust chain adjusters to allow chain play according to above. Tighten hub nuts firmly. Put on frame covers again.

Freewheel sprocket

When replacing the freewheel sprocket remove frame covers if necessary. Dismantle the chain as described in part "Chain 1/2" x 1/8" ".

Loosen the axle nuts and lift off the flywheel. Remove the axle nut, washer, chain adjuster and spacer on the freewheel side. Place the special remover (Art. No: 9100-14) in the adapter and place the spacer and axle nut outside. See *fig: Special remover.* Replace sprocket-adapter and assemble the new parts in reverse order according to the above.

NOTE: Do not tighten the axle nut completely. It must be possible to loosen the adapter-sprocket half a turn.

The sprocket should be lubricated with a few drops of oil once a year. Tilt the cycle somewhat to make it easier for the oil to reach the ball bearing. See *fig: Lubrication.*

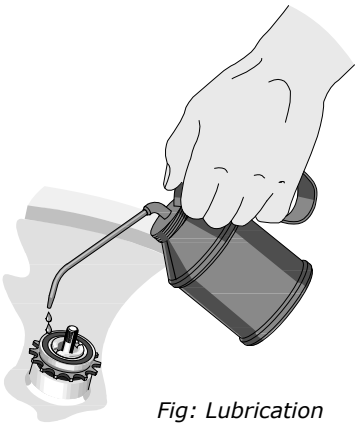


Fig: Lubrication

Fig: Special remover (Art. No: 9100-14)

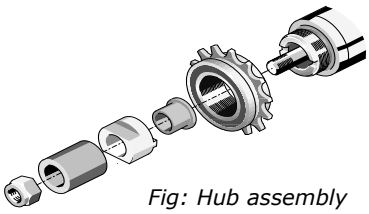
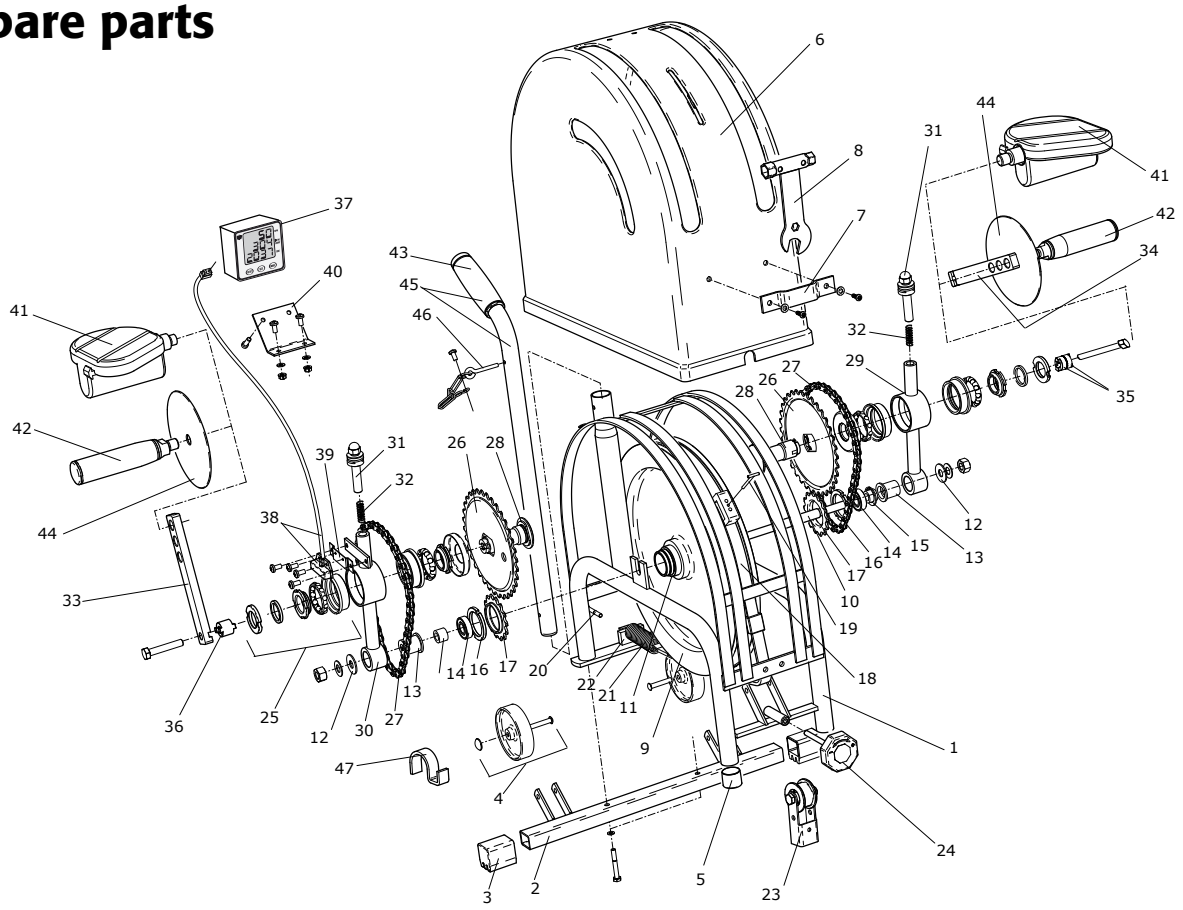


Fig: Hub assembly

Spare parts



Pos.	Qty.	Art. No.	Description	Pos.	Qty.	Art. No.	Description
1	**1**	**9145-2**	**Frame**	**27**	**2**	**9145-55**	**Chain 1/2”x1/8”, 42 l, incl. lock**
2	**1**	**9030-6**	**Support tube, rear**	**28**	**2**	**9145-145**	**Crank axle**
3	**2**	**9100-5**	**Plastic cap, blue**	**29**	**1**	**9145-146**	**Crank bearing arm, right**
4	**2**	**9010-12**	**Transport wheel, complete**	**30**	**1**	**9145-147**	**Crank bearing arm, left**
5	**2**	**1066**	**Plastic cap, white**	**31**	**2**	**9045-50**	**Arm extension fastener compl.**
6	**1**	**9145-10**	**Cover with decals, complete**	**32**	**2**	**9145-49**	**Spring for above**
	5	**21015-5**	**Mounting screw for cover**	**33**	**1**	**9145-60**	**Crank arm, left**
7	**1**	**9145-18**	**Rubber belt**	**34**	**1**	**9145-63**	**Crank arm, right**
8	**1**	**9145-20**	**Combination key**	**35**	**2**	**9045-65**	**Collar**
9	**1**	**9145-24**	**Flywheel 11 kg, complete**	**36**	**1**	**9145-66**	**Double keyed collar**
10	**1**	**9045-27**	**Axle length 160 mm 26g**			**9145-72**	**Meter set, complete**
11	**1**	**9010-38**	**Tension Pin 5x18 mm**	**37**	**1**	**9371-68**	-Digital meter
12	**2**	**9145-50**	**Washer 10x18 mm**	**38**	**1**	**9326-162**	-Crank sensor with cable
13	**2**	**9145-28**	**Bearing bushing**	**39**	**1**	**9145-69**	-Holder for sensor
14	**2**	**19001-6**	**Ball bearing 6001-2z**	**40**	**1**	**9371-67**	-Holder for digital meter
15	**1**	**9000-15**	**Lock ring SgH 028**		**1**	**9326-164**	-Magnet
16	**2**	**2420-49**	**Sprocket nut**	**41**	**1**	**9300-205**	**Pedal, pair**
17	**2**	**1210**	**Sprocket 14t**		**1**	**9300-207**	**Foot straps, pair**
18	**1**	**9145-30**	**Brake belt, complete**	**42**	**1**	**9045-70**	**Handle, pair**
19	**1**	**9145-32**	**Indicator**	**43**	**1**	**9145-75**	**Grip, pair**
20	**2**	**9145-92**	**Plate**	**44**	**1**	**9045-71**	**Hand guard**
21	**1**	**9145-33**	**Spring**		**1**	**9145-550**	**Decal set for 881 E**
22	**1**	**9145-34**	**Bracket**	**45**	**1**	**9145-100**	**Transport handle**
23	**1**	**9145-136**	**Tension lever, complete**	**46**	**1**	**9145-101**	**Locking pin with chain**
24	**1**	**9145-140**	**Handwheel, complete**		**1**	**9145-150**	**Set w. screw, washer and nut**
25	**1**	**6720**	**Crank bearing set, complete**		**1**	**9045-101**	**Wall bar fastener, accessory**
26	**2**	**9007-36**	**Chain wheel, 34T**		**1**	**9145-8**	**Adjustable table, accessory**

Notes:

MONARK EXERCISE AB

Version 1010
Art. No: 7950-308

CE 0402

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